

## Memorandum

TO: Lee Cullen, Chair of Governor's Task Force on Energy Efficiency and Renewables

FROM: Jim Boullion, Chair of the Codes and Standards Workgroup

DATE: July 9, 2004

RE: Codes and Standards Workgroup Recommendations

Over the past few months, the Building Codes and Standards Workgroup of the Governor's Task Force on Energy Efficiency and Renewables has been meeting to discuss proposals to revise or create new energy codes and standards policies, regulations or legislation in the state. The Workgroup has completed its work and has agreed on the following recommendations for the Governor's Task Force.

1. **Building Code Update:** The Workgroup recommends that the Governor direct the Department of Commerce to start revision of the commercial energy code, COMM chapter 63, by September 1, 2004 and submit the proposed changes to the legislature by September 1, 2006. This is because the current commercial energy codes have fallen behind the standards being developed on a national level.
2. **Adopt Current IECC:** The Workgroup recommends that the statutory requirement for updating commercial energy codes be revised to reference the International Energy Conservation Code (IECC) (s. 101.27 Wis. Stats.). The latest version of the IECC should be referenced for future revisions of the State's commercial energy conservation code. Currently, ASHRAE Standard 90.1-1989 is referenced. The IECC is the national code standard that was adopted for use in 2003 by the State of Wisconsin. This recommendation makes the statutes and building code references consistent.
3. **3-Year Code Cycle:** The Workgroup recommends that s. 101.27 Wis. Stats. be changed to require the Wisconsin Department of Commerce (DOC) to review the State's commercial energy conservation code on a 3-year rather than the current 5-year cycle. This review would be started within a specified period of time after release of a new version of the International Energy Conservation Code (IECC). This proposal would keep Wisconsin in conformance with the IECC's code which has a 3-year code update cycle.
4. **Energy Efficient State Buildings:** The Workgroup recommends that the Governor direct the Department of Administration to establish a policy that all newly constructed buildings that are procured by the State (both purchased and leased) should be designed and built with a goal of being 20 percent more energy efficient than the current State Energy Conservation Code requirement for similar buildings. The Energy Conservation Code is the minimum allowable standard for new non-residential buildings in Wisconsin. This provision is designed to make the State a leader by example by utilizing and promoting the latest cost-effective methods of building energy efficient buildings.
5. **State Purchased Appliance Standards:** The Workgroup recommends that the Governor direct all State agencies (including WHEDA), whenever practical, to purchase or lease products and appliances that are certified as energy efficient by nationally-recognized programs such as ENERGY STAR. The Wisconsin Division of Energy can assist with identifying those products

with related nationally recognized standards. This recommendation, like the previous recommendation, is designed to make the State of Wisconsin a leader by example in purchasing high efficiency products. Not only are these two recommendations good public policy from an environmental and energy saving standpoint, but they are good fiscal policies in that they will save the State taxpayers money over the long haul.

6. **Energy Efficient Building Inspectors:** The Workgroup recommends that the Governor's Task Force support a pilot project that would allow an alternative method of Uniform Dwelling Code enforcement for builders who have been building all of their homes as above-code Wisconsin ENERGY STAR Homes. The pilot project would allow the builder to hire a State Certified code enforcement inspector who would be allowed to provide advice to the builder during construction as well as determine code compliance. Currently code inspectors can only tell a builder what they are doing wrong or approve minimum standard installations. This program would allow the inspector to actually team with the contractor and make proactive recommendations on better ways to meet or exceed the building codes.
7. **Rental Property Energy Inspections:** The Workgroup supports the creation of a pilot program that would give building owners an alternative method for meeting the requirements of s. 101.122 Wis. Stats. for the sale of rental property. This pilot program would use the Focus on Energy's Apartment and Condo Efficiency Services and Home Performance with ENERGY STAR programs for meeting this requirement rather than state-certified rental weatherization inspectors. This will encourage participation in the Energy Star program and eliminate an unnecessary inspection and fee for buildings that are already complying with the energy efficiency standards.
8. **Endorse EBCC Proposals:** The Workgroup recommends that the Dept. of Commerce include the following two building code proposals recommended by the WE Energies' Energy Building Code Collaborative in the State energy conservation code update:
  - a. *Building Envelope:* Require windows to have a winter center-of-glass U-factor of .40 or less and SHGC (solar heat gain coefficient) of .50 or less. Eliminate the ACP method of calculating energy efficiency.
  - b. *Lighting Power:* Eliminate s. Comm 63.1048, Wis. Admin. Code, the area category method of calculating lighting densities, and establish maximum lighting unit power densities using ASHRAE Standard 90.1 Tables 9.3.1.1 and 9.3.1.2.
9. **PSC Enforcement of Building Codes:** The Workgroup recommends that the Public Service Commission work with the Department of Commerce's Division of Safety and Buildings and the Department of Administration's Division of Energy to rewrite or transfer to another agency the PSC regulations regarding conversion to natural gas spaceheating or to an electric spaceheating system (ss. PSC 136.04 and 136.06, Wis. Admin. Code). The PSC has rules that regulate these conversions but no staff or funds dedicated to enforcement. This is an area that should no longer be required of utilities whose customers are eligible for Focus on Energy.
10. **Energy Efficiency Recognition Award:** The Workgroup recommends that the Governor create an award or recognition program for innovative ideas and notable accomplishments in energy efficient design, products and renewable energy. State building codes and energy regulations set the minimum allowable standards for energy design. This award program would be used to promote and publicize those "beyond code" advancements in energy efficiency that would

otherwise go unnoticed by the general public and potential users of new techniques and technologies.

11. **Ventilation Standards for Super Insulated Homes:** The Workgroup recommends that the Uniform Dwelling Code Council review issues related to ss. 101.63 and 101.73 Wis. Stats. that require greater insulation for electrically heated new homes, as well as related issues of air sealing requirements and ventilation. Any time a home is super insulated to save energy, as electric homes are required to do, it is very important to review the issues related to venting, air circulation and air sealing in the home, even if electric heat is being used.
12. **Appliance Energy Efficiency Standards:** There is one other proposal that the Building Codes and Standards Workgroup (BCSW) spent a considerable amount of time discussing. That was a proposal to establish minimum energy efficiency standards for the sale of certain electrical appliances and devices in Wisconsin that are not regulated by the federal government. The recommendation was based on model legislation from the American Council for Energy-Efficient Economy (ACEEE). The Workgroup invited representatives of several environmental groups and product manufacturers to join our discussion. During the meeting it appeared that some progress was being made. While compromises were offered by both sides a final recommendation was not reached. A subgroup was asked to continue the discussions to see if an agreement could be reached. As of July 9, 2004 an agreement has not been reached. Opposition to individual state regulation of appliances is strongly felt by some of the manufacturers. There was also concern that many of the groups that will be affected still have not seen or had a chance to comment on this proposal. There are members of the Workgroup who strongly support the original ACEEE proposal even if a compromise cannot be reached and would like the full Task Force to consider recommending it to the Governor. The BCSW will provide an update at the July 20<sup>th</sup> meeting of the full Task Force.

**Public Hearing Comments:**

The workgroup also reviewed comments received from the public at the Public Hearing on June 15, 2004 and subsequent written comments. Many of these suggestions were responding to initiatives described above and have been incorporated into the workgroup's recommendations. The workgroup decided two suggestions from the public warranted further consideration: developing standardized methods for achieving energy efficiency above code for those that choose to do so and increasing the consideration of whole house interactive issues in the One and Two Family Code. A more detailed description of the workgroup's discussion of public comments is attached.

**Building Codes and Standards Workgroup**

**Consideration of Public Hearing Comments, June 15, 2004**

The Codes and Standards Workgroup received comments on some of its considerations at the public hearing on June 15, 2004. The following are comments and the Workgroup's responses:

**Comments from Jennifer Giegerich, WISPIRG:**

- a. "Wisconsin should adopt a mechanism for adopting the most efficient building codes as they come online."
- b. "Wisconsin should commit to furnishing all new government buildings with ENERGY STAR appliances."

**Workgroup Response:**

- a. Agreed. The Workgroup proposes recommendations numbers 1, 2 and 3 related to the commercial code will accomplish this.
- b. Agreed. The Workgroup proposes recommendation 5 that will accomplish this.

**Comment from William Hurtle**

"We need more than increased representation of whole house interactive issues in the One and Two Family Code..."

**Workgroup Response:**

This comment was not acted on but can be considered by the Uniform Dwelling Code Council.

**Comments from Jerry Mendl**

- a. "Regarding energy efficiency, revisions to the State's Energy Codes for residential and commercial construction are appropriate to update them to current energy prices and energy efficiency technologies."
- b. "State and local government buildings in Wisconsin should be required to become models of energy efficiency because it would stimulate energy awareness, save money, stimulate the local economy and preserve our environment. It may be appropriate for the State to provide energy efficiency funding for Public Benefits to local government to assist them in meeting the requirement."

**Workgroup Response:**

- a. This comment was not acted on by the Workgroup. It is the Workgroup's understanding that the Department of Commerce has a system in place that uses current energy prices and technologies when considering changes to energy conservation codes."

- b. The Workgroup has addressed this comment as it relates to state buildings in recommendation numbers 3 and 4. A similar recommendation for local governments is considered outside the authority of the Governor's Task Force. Although considered outside this Workgroup's purview, Focus on Energy does provide technical assistance for local government buildings' energy use.

#### **Comments from Scott Olsen**

- a. "Adopt code that reflects up-to-date knowledge and practices, upgrade from 1989, 17 years by 2006, i.e. bring base up."
- b. "Adopt code that is easy for A&E community to use and understand."
- c. "Develop a standard/ approach for achieving energy efficiency above code for those that chose to do so. Option: Advanced Buildings."
- d. "What WI specific issues/climate would make it beneficial to create a few exceptions to the code?"
- e. "Those noted in Code Collaborative:
  - i. Lighting power densities
  - ii. SHGC for windows
  - iii. Residential thermostats
  - iv. Plus control/use/recovery of outdoor air"
- f. "Details
  - i. Support revised IECC
  - ii. Same code for all buildings in state- Comm and DFS
  - iii. Consider language requiring DFS to adopt Comm
  - iv. Support Comm updating IECC as soon as possible
  - v. Support 3 yr. Revision cycle
  - vi. Support option of state owned facilities performing better than code; use Advanced Buildings [Guidelines]
  - vii. Given WI climate would add an additional caveat to EBCC proposal; OA [outside air] control/recovery"

#### **Workgroup Response:**

- a. Agree, included in Workgroup recommendations 1, 2 & 3
- b. Agree with concept but ease of use of actual codes is up to the Safety & Buildings Division and its code councils.
- c. The Workgroup supports efforts to achieve energy efficiency above code minimums. The Advanced Buildings program is an excellent suggestion as one of the ways to achieve above code performance.
- d. Wisconsin's unique climate is one of the factors that Safety & Buildings takes into consideration when writing code updates.

**Comments from Michael J. Potts, P.E., Orion Energy Systems, Ltd.**

“State Energy Codes: Remember – state energy codes are the worst that a building can legally be built. We can and must do better. The Commissioning Process should be part of the code. The US Green Building Council state that new buildings that go through the Commissioning Process use 5 to 10% less energy. Buildings that are Re-Commissioned tend to use 12% less energy and existing buildings that are Retro-Commissioned tend to save over 20% on energy (AEE Energy Engineering Vol 101, No. 4).”

**Workgroup Response:**

The Workgroup did not take any action on this comment. This recommendation can be passed on the Commercial Code Council’s Energy Committee.

**Comments from Dan W. York, Ph.D., American Council for an Energy-Efficient Economy (ACEEE)**

“In addition to funding for energy efficiency programs, Wisconsin should establish efficiency standards for selected appliances and end-use technologies.

“The Codes and Standards Workgroup has identified “General appliance standards” as an area for ongoing discussion. The workgroup’s memo references model legislation developed, in part, by my organization, the American Council for an Energy-Efficient Economy. I urge the Task Force to develop a recommendation for new state legislation establishing certain appliance energy efficiency standards.

“Based on analysis that we have recently updated, a broad package of state level appliance standards could reduce statewide electricity use by 532 gigawatt-hours by 2010 and 1,100 gigawatt-hours by 2020. Some of the recommended standards would also save considerable amounts of natural gas and water. The net present value for consumers and businesses owning and operating affected products would be nearly \$740 million.

“In developing the model legislation, we selected products for which near term state level standards are most appropriate. We used the following criteria to select products for the model bill:

- The energy savings would be significant for a state;
- The standard would be very cost effective to purchases and users the product;
- Products meeting the recommended standard are readily available on the market today from multiple manufacturers;
- Standards for these products are not preempted by federal law; and
- Consensus test methods for rating efficiency exist.

“All of the recommended standards have either been adopted by at least one other state or are pending adoption in another state.

“Altogether, our package of recommended state level standards covers 17 product categories. Most likely, not all seventeen make sense for Wisconsin. ACEEE would be pleased to help identify which product standards among those generally recommended make sense here. Examples of affected products include exit signs, certain types of lighting equipment, commercial refrigerators, natural gas unit heaters, and external power supplies for electronics.

“Several states have recently acted to establish similar appliance standards. California adopted new standards in 2002 and this year both Connecticut and Maryland have enacted standards legislation based on our energy bill. Similar bills are pending in several other states including New Jersey and Pennsylvania.

“While adoption of appliance standards would greatly advance energy efficiency in Wisconsin, this action would not negate the need for continued funding for Focus on Energy and other energy efficiency programs. Adoption of energy efficiency standards for appliances would complement these programs by helping to remove the worst and most inefficient products from the market. The programs help push for greater efficiency by stimulating the purchase and use of the highest efficiency products. Together standards and programs move markets towards providing consumers higher efficiency products and services.”

#### **Workgroup Response:**

The Workgroup received verbal comments during its last meeting from Dan York with ACEEE as well as Alliance Laundry Systems and the Appliance Manufacturers Association in Washington D.C. Using the criteria cited above by Dan York as well as consideration whether a standard would benefit Wisconsin manufacturers, the Workgroup discussed adopting a limited scope of products for initial legislation for appliance efficiency standards. This recommendation has not been finalized yet but is still being discussed. See additional comments in Workgroup recommendation number 12.